

Bristol Water AMP6 Reporter

Annual Performance Report 2018/19 Assurance Report

Bristol Water

17 June 2019

Final Report



Notice

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Document history

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Assurance Statement for Bristol Water's 2018/19 APR

This document is Atkins Limited's assurance statement that encapsulates observations we made during the technical audit of aspects of Bristol Water's Annual Performance Report for 2018/19. Our findings were presented to Bristol Water's Executive Team on 17 June 2019 and the Bristol Water Challenge Panel on 13 June 2019.

This statement is part of a continuous improvement process that has involved detailed consideration of the methodologies and their applications by which Bristol Water reports on its performance at financial year end and at the mid-year point. We have been providing this service since 2015. From the Company Monitoring Framework: 2018 Assessment, we are pleased to note that Bristol Water has met the criteria for promotion to the "targeted" assurance category.

For the areas we cover and from the information we have been provided with, we conclude that the Company has a full understanding of and has sufficient processes and internal systems of control to meet its reporting obligations. We also conclude that the Company has appropriate systems and processes in place to allow it to manage its reporting risks.

Our approach to technical assurance is to draw upon our experiences at previous rounds of audit and to plan in detail who should be present, what information will be covered, where and when. We issue a notification, carry out the audit, provide immediate verbal feedback, provide key issue feedback within 24 hours and a formal feedback summary including requests for further information or clarification with a table of issues raised. The issues across all of the audits are gathered into an Issues Log, which is used to manage the resolution of reporting issues before the finalisation of the technical assurance process. This statement reflects the technical assurance position after the iterative process of resolving outstanding issues has concluded. It should be read in conjunction with Bristol Water's Risk and Compliance Statement 2018/19 and associated documentation.

Bristol Water has 21 Performance Commitments (PCs), ten of which have associated financial penalties and rewards.

As part of our independent assurance of Bristol Water's Annual Performance Report 2018/19, we have been engaged to audit the following tables and submissions to be published in Bristol Water's 2018/19 Annual Performance Report and regulatory reporting:

- Data and commentary reported as part of the Annual Performance Report (APR) to Ofwat:
 - Table 3A – Outcome performance table, including underperformance penalties and outperformance payments.
 - Table 3B – Sub-measure performance table
 - Table 3D – SIM (Service Incentive Mechanism)
 - Tables 4A, 4B, 4C, 4D, 4F and 4G
 - Table 3S – shadow reporting of new definition data (included in separate report)
 - Tables 4J, 4L, 4P, 4Q and 4V (formerly Wholesale Cost Tables)
- WRMP Annual Review
- GSS payments

In a series of approximately 25 meetings and 10 remote audits in May and June 2019, we carried out combined methodology and data audits designed to test:

- The Company's internal control systems to produce the submission;
- Whether reporting appears to align with relevant guidance;
- If data has been compiled in accordance with Company methods and procedures; and
- Whether commentary is consistent with our observations on performance levels, trends and the information we were provided with at audit.

We were provided with a copy of the commentary the Company proposed to publish to explain and clarify its reported performance information. We provided feedback on whether it was a reasonable interpretation of what we had seen during our audits.

Bristol Water has met 9 of its 21 committed performance levels for 2018/19 and will incur financial penalties on 4 of the 12 PCs where it has underperformed. Nevertheless, unplanned customer minutes lost, asset reliability sub-indicators (infrastructure and non-infrastructure), mean zonal compliance, leakage, meter

penetration, total carbon emissions, raw water quality of sources, biodiversity index, service incentive mechanism, general satisfaction from surveys and negative billing contacts all show an improvement since 2017/18. Notable observations on Bristol Water's performance are set out below.

- Unplanned customer minutes show a significant reduction since 2017/18 (from 73.7 minutes to 14.7 minutes); however, due to ongoing impacts from the 'beast from the east' in early 2018, the hot, dry summer of 2018 and a supply interruption event at Frenchay in November 2018 the reported performance remains above the target and the Company will therefore incur a financial penalty. The commentary sets out the Company's planned transformational activities, through which it is anticipating that it will meet the committed performance levels for the final year of the AMP and AMP7 targets.
- Performance on infrastructure asset reliability has improved since 2017/18; however, due to the 'marginal' assessment last year, the Company can only report a 'marginal' assessment for the current year. However, the Company is forecasting to meet its committed performance level for the final year of the AMP.
- The Company has successfully met its committed performance levels on non-infrastructure asset reliability, security of supply index and hosepipe ban frequency for the fourth year in a row and is on track to meet its targets for the final year of the AMP.
- Despite continued focus on metering activity, the Company has not met its metering penetration target for the current year or the past three years and is now forecasting to underperform against the target for the final year of the AMP. The Company has a number of initiatives planned to meet its targets for AMP7.
- The Company has significantly improved its leakage performance from 2017/18 although its performance remains slightly above the target level due to the hot weather and high summer demand experienced in 2018. The Company has introduced a new leakage strategy since 2017/18 and this should allow the Company to meet its leakage targets for the final year of the AMP.
- The Company's Service Incentive Mechanism (SIM) score has improved since 2017/18 although the Company has missed its committed performance level. The Company's commentary explains that this is primarily due to poor pressure caused by high demand in the long hot summer during the first half of the reporting year. It sets out activities it is undertaking to improve customer satisfaction as part of its transformation programme. Based on the actions taken by the Company we believe the Company should be able to continue to improve its performance next year. Our audit of Bristol Water's reporting against Performance Commitment J1: Service Incentive Mechanism highlighted improvements in the Company's reporting of unwanted calls since 2017/18 and we would anticipate the accuracy of telephone reporting to continue to improve with the quality assurance checks that have been implemented.
- The Company has continued to improve its customer satisfaction in relation to the general satisfaction from surveys Performance Commitment, although it has not yet met its challenging target of 93% for all years of the AMP. We believe the Company should be able to continue to improve its performance through the measures set out in the commentary.

During the assurance activities, we have had free access to the Director of Strategy and Regulation and his team and the full cooperation of the people responsible for preparing and reporting the 2018/19 APR and regulatory submissions and the supporting information.

We are pleased to provide assurance that, overall, we consider the information published by Bristol Water has been compiled using information which is accurate, reliable and complete. We have traced selected information to data sources and information systems. We consider the published metrics and commentary provide a fair and reasonable account of Bristol Water's performance in 2018/19 and progress towards achieving its 2020 targets.

While we observed a number of issues for which we provide comment within our main report, we believe these do not impact materially upon the potential to sign-off the Company submission. Each is an area we believe should be given further consideration as part of continuing improvement to performance reporting by Bristol Water.

Jonathan P Archer

Regulation Director

Reporter providing Technical Assurance Services to Bristol Water

Executive summary

Introduction

This report summarises the external technical assurance (Reporter) services Atkins has provided in relation to aspects of Bristol Water’s 2018/19 Annual Performance Report (APR) Sections 3 and 4, GSS Payments and Water Resources Management Plan (WRMP) Annual Review. This is our fourth year of providing these services to Bristol Water and the fourth year of AMP6 in which Bristol Water has reported against the measures defined in the 2014 Final Determination by Ofwat (as subsequently amended as a result of the deliberations of the CMA in October 2015 and Ofwat’s Corrigenda to the Final Determination in April 2018) and this is the third year that we have provided assurance for the WRMP Annual Review. Our approach has been shaped by the expectations of the assurance to be provided for a “prescribed” water company. From the Company Monitoring Framework: 2018 Assessment, we are pleased to note that Bristol Water has met the criteria for promotion to the “targeted” assurance category. Throughout, we have received the cooperation of the Company and have had the freedom to express our opinions. We have had access to and have fed back to the Senior Leadership Team.

Approach

We carried out a series of structured audits, which we tailored to the different data types being reported. As with the previous two years, for all audits this year we carried out a combined methodology and data audit; these were in line with Bristol Water’s Assurance Plan as published in March 2019.

Our focus on particular areas was risk-based as highlighted in Bristol Water’s own analysis and supplemented by our experience in identifying and quantifying the elements of the journey from raw to published data that introduce material errors.

After detailed planning of an audit schedule to ensure the appropriate people (Company and technical auditors) are present, we formally notify all parties of the expectation of the audits. We provide immediate verbal feedback and document our audit findings in both a rapid feedback e-mail and a detailed audit summary. These provide the Company with the opportunity to correct errors of fact and respond with explanations or further information to our observations. The essence of the summaries is captured in an Issues Log which is used to manage the progress on matters arising. The supporting documentation is available for inspection.

Summary of Findings

Each data table reviewed at audit was allocated an overall rating of Red, Amber or Green to reflect their priority, with separate ratings for the methodology, data and commentary. Table 0-2 to Table 0-7 below provide a summary of our audit findings. Descriptions for each category are given in Table 0-1 below.

Table 0-1 Description for RAG categories

Category	Description
RED	High Priority: Failure to comply with reporting requirements, major failure of process or data errors that may lead to misreporting.
AMBER	Medium Priority: Shortfalls in methodology and/or methodology documentation. Methodology under development. Incomplete data set or minor errors identified that do not alter the performance reported relative to targets and threshold values.
GREEN	Low Priority: Minor revisions to methodology and/or methodology documentation needed. Issue(s) not judged to be material or no issues.
TBC	To be confirmed – missing data or information

Table 0-2 Performance Commitments (APR Table 3A-D) – Overall Assessment

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
A1: Unplanned customer minutes lost	14.7	12.5	Green	Green	Green	Green	Robustly reported
A2: Asset reliability – infrastructure	Marginal	Stable	Green	Green	Green	Green	Robustly reported
Sub-indicator: Bursts	1,074	950	Green	Green	Green	Green	Robustly reported
Sub-indicator: DG2 Low pressure	61	69	Green	Green	Green	Green	Robustly reported
A3: Asset reliability - non-infrastructure	Stable	Stable	Green	Green	Green	Green	Robustly reported
Sub-indicator: Unplanned maintenance	0	0	Green	Green	Green	Green	Robustly reported
Sub-indicator: Turbidity at treatment works	2,913	3,976	Green	Green	Green	Green	Robustly reported
B1: Population in centres >25,000 at risk from asset failure	9,063	9,063	Green	Green	Green	Green	Good evidence of SRS scheme completion confirmed the target met.
C1: Security of supply index (SOSI)	100	100	Green	Green	Green	Green	Methodology is fit for purpose. The figure has been robustly reported.
C2: Hosepipe ban frequency	3.1	10.2	Green	Green	Green	Green	No concerns over reported figure.
D1: Mean zonal compliance (MZC)	99.99%	100%	Green	Green	Green	Green	Robustly reported
E1: Negative water quality contacts*	1,934	2,275	Green	Green	Green	Green	Methodology is fit for purpose. Some minor errors were identified in reporting which were

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
							subsequently corrected.
F1: Leakage	45.8	44.0	Green	Green	Green	Green	Some improvements recommended, but not material. The Non-household night use uncertainty issue would be Amber, but this is being transparently reported to Ofwat. No significant concerns.
G1: Meter penetration	56.0%	62.5%	Green	Green	Green	Green	No issues with methodology or reporting. While increase in metering has been impressive (3.3% in year), the Company is still a long way from meeting targets set for AMP6, which the Company's forecasts recognise.
G2: Per capita consumption (PCC)	148.3	142.8	Green	Green	Green	Green	Figures as submitted can be assured, but the significant error initially encountered at audit highlights that there should be greater checking when systems are changed in future.
H1: Total carbon emissions	23	22 kgCO ₂ e/person	Green	Green	Green	Green	Robustly reported
H2: Raw water quality of sources	-14% (Improving)	+/- <= 10% (Marginal)	Green	Green	Green	Green	Robustly reported
H3: Biodiversity index	17,668 (Improving)	17,652 (Improving)	Green	Green	Green	Green	No concerns over reported figure.

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
H4: Waste disposal compliance	97.93%	100%	Green	Green	Green	Green	Robustly reported
I1: Percentage of customers in water poverty	0.0%	1.9%	Green	Green	Green	Green	Data provided by an external company and then % calculated by Company. No issues identified with transcription or calculation. Our scope does not include assurance of all data inputs feeding into the calculation.
J1: Service incentive mechanism (SIM): (BW)	84.7	5 th ranked company for 2017/18 (estimated 87.0)	Green	Green	Green	Green	The SIM score was adjusted slightly following clarification on the method of calculation. No issues were identified in relation to written complaint reporting. We have highlighted issues with the robustness of unwanted calls reporting previously and we would anticipate the accuracy of the reporting in this area will continue to improve.
J2: General satisfaction from surveys	89%	93%	Green	Green	Green	Green	We were satisfied that the data provided by a third-party provider has been transcribed accurately.
J3: Value for money	68%	72%	Green	Green	Green	Green	
K1: Ease of contact from surveys	91.4%	96.5%	Green	Green	Green	Green	
L1: Negative billing contacts	1,595	2,240	Green	Green	Green	Green	

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
							Pelican was used accurately.

* Audits undertaken in January 2019

Table 0-3 APR Section 3 Tables - Overall Assessment

Table	Methodology	Data	Commentary	Assurance summary
3A - Outcome performance table (including underperformance penalties and outperformance payments)	Green	Green	Green	No concerns over reported figures.
3B - Sub-measure performance table	<i>See A2 and A3 summaries above</i>			
3D - SIM (Service Incentive Mechanism)				See Performance Commitment J1 SIM summary in Table 0-2.
3S - Shadow reporting of new definitions (leakage, supply interruptions, unplanned outage, PCC, mains bursts, risk of severe restrictions in a drought and customer vulnerability)	Covered in a separate report			

Table 0-4 APR Section 4 Tables (financial and non-financial information) – Overall Assessment

Table	Lines	Methodology	Data	Commentary	Assurance summary
4A - Non-financial information	1 to 5	N/A	Green	N/A	No concerns over reported figures.
4B - Totex analysis	1 to 9	Green	Green	Green	All issues satisfactorily resolved.
4C - Impact of AMP performance to date on RCV	1 to 6	Green	Green	Green	All issues satisfactorily resolved.
4D - Wholesale totex analysis – wholesale water	1 to 11	Green	Green	Green	Recommendation to obtain stronger clarification from Ofwat about line 6 in the coming year. We also recommend that the Company amends its methodology to allow any raw water storage opex to be identified and/or allocated appropriately.
	12 to 19	Green	Green	Green	All issues satisfactorily resolved.
	20 to 21	Green	Green	Green	All issues satisfactorily resolved.
	22 to 24	Green	Green	Green	No concerns. Lines 22 & 23 are zero entries this year.
	25 to 28	Green	Green	Green	All issues satisfactorily resolved.
4F - Operating cost analysis - household retail	1 to 14	Green	Green	Green	Recommendation to consider improving approach to analysis BWBSL costs next year.
4G - Wholesale current cost financial performance	1 to 12	Green	Green	Green	All issues satisfactorily resolved.

Table 0-5 APR Section 4 Tables (4J to 4V - previously Wholesale Cost Tables) – Overall Assessment

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
4J - Atypical expenditure by business unit	Operating Expenditure	1 to 11	Please refer to 4D				
	Capital Expenditure	12 to 21	Please refer to 4D				
	Cash Expenditure	22 to 24	Please refer to 4D				
	Atypical Expenditure	25 to 30	N/A	N/A	N/A	N/A	No atypical expenditure
	Total Expenditure	31	Please refer to 4D				

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
4L - Enhancement capital expenditure by purpose	Enhancement expenditure by purpose	1 to 33	Green	Green	Green	Green	All issues satisfactorily resolved.
4P - Non-financial data for WR, WT and WD: Resources	Proportion of distribution input by source type	1 to 8	Green	Green	Green	Green	Minor error identified and corrected. No significant concerns over reported figures.
	Number and capacity of sources	9 to 23	Green	Green	Green	Green	No significant concerns over the reported figures. Company has clarified their interpretation of Ofwat's definition.
	Length of raw mains	24, 27	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Pumping head	25 to 26	Green	Green	Green	Green	The process of data management and extraction is well controlled and appropriate procedures are in place.
	Water resources capacity	28	Green	Green	Green	Green	A minor update was required to the methodology document and commentary, which is otherwise fit for purpose. No concerns over reported figure.
4P - Non-financial data for WR, WT and WD: Treatment	Total water treated	29 to 43	Green	Green	Green	Green	Robustly reported
	Number of treatment works	44 to 58	Green	Green	Green	Green	Robustly reported
	Zonal population receiving water treated with orthophosphate	59	Green	Green	Green	Green	Robustly reported
	Average pumping head - treatment / Average pumping head - resources	60	Green	Green	Green	Green	The process of data management and extraction is well controlled and appropriate procedures are in place.

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
4P - Non-financial data for WR, WT and WD: Distribution	Main lengths	61 to 68	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Capacity	69 to 71	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Distribution input	72	Amber	Green	Green	Green	We have concerns that the verification / validation process cannot be demonstrated to be working effectively. We have no concerns over the reporting of data once it is logged.
	Water Delivered	73 to 76	Green	Green	Green	Green	No significant concerns.
	Leakage	77 to 79	Green	Green	Green	Green	No significant concerns.
	Comms pipes	80 to 82	Green	Green	Green	Green	Information derived from the GIS. Several updates recommended for methodology.
	Network	83 to 85	Green	Green	Green	Green	Minor error identified and corrected for current and previous years.
	Age of Network	86 to 93	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Pumping head	94	Green	Green	Green	Green	The process of data management and extraction is well controlled and appropriate procedures are in place.
	WTW in size bands	95 to 102	Green	Green	Green	Green	Robustly reported
	Proportion of Total DI band	103 to 110	Green	Green	Green	Green	Robustly reported
4Q - Non-financial data - Properties, population and other	Properties, population and meters	1 to 14, 16 to 17	Green	Green	Green	Green	Residential properties billed for measured water adjusted following identification of issues with Pelican report although still some scope to improve approach. Challenged methodology and reporting for new connections although as it is likely to be a matter of accruals not

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
							quantity, the Company has decided not to adjust this year. Other reporting appears satisfactory.
	Total Population Served	15	Green	Green	Green	Green	Two small errors relating to the methodology for private water supplies were identified, the methodology will be updated and the number has been adjusted as a result of the change. Accuracy of private water supply data could be improved.
	Company area	18	Green	Green	Green	Green	No issues with reporting. Methodology updated to explain how private supplies are treated.
	Lead Comms pipes	19	Green	Green	Green	Green	Reported figures are readily traced to quality work and checks are evident.
	Supply / Demand	20 to 23	Green	Green	Green	Green	No supply-side schemes implemented. Figures have been robustly reported. Minor updates to methodology and commentary undertaken.
	Energy Consumption	24 to 26	Green	Green	Green	Green	Figures appear to have been robustly reported and are now aligned with finance allocations. Minor edits to the methodology document and spreadsheets suggested and implemented.
	Mean zonal compliance	27	See D1 – Mean Zonal Compliance				
	Compliance Risk Index	28	Green	Green	Green	Green	Robustly reported

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
	Events Risk Index	29	Green	Green	Green	Green	Robustly reported
	Volume of leakage	30	Green	Green	Green	Green	No significant concerns.
4V - Operating cost analysis	Opex	1 to 22	Green	Green	Green	Green	All significant issues addressed. A number of minor areas for improvement identified for next year.

Table 0-6 GSS payments – Overall Assessment

Performance Measure	Overall rating - Methodology		Data	Commentary	Assurance summary
	Method	Documentation			
Guaranteed Standards Scheme (GSS) payments (Bristol Water)	Green	Green	Green	N/A	We are satisfied that the Company records and makes payments where GSS failures are identified. There is room for improvement with the understanding and record keeping within the New Supplies team although we do not believe this materially impacts on compliance.

Table 0-7 WRMP Annual Review – Overall Assessment

Performance report	Overall rating - Methodology		Data	Commentary	Assurance summary
	Method	Documentation			
WRMP Annual Review	Green	Green	Green	Green	Minor error corrected. No concerns over reported figures.

1. Introduction

1.1. Background

Atkins Limited has been appointed by Bristol Water to provide external assurance on the regulatory submissions presented by Bristol Water (the Company) to the Water Services Regulation Authority (commonly known as Ofwat) under the conditions set out in its Licence with the Secretary of State.

In its PR14 Business Plan, Bristol Water stated that they would publish an update on outcome performance and present this to the stakeholder representative group. Bristol Water will publish an Annual Performance Report (APR) on some performance indicators common to all other water supply companies (in England and Wales) and some which are bespoke to the Company which were defined through the PR14 Business Plan, Final Determination and Competition and Markets Authority (CMA) deliberations.

The Wholesale Cost Assessment Information Tables are now incorporated under Section 4 of the APR submission. We also include in this assurance report consideration of Bristol Water's Guaranteed Standards Scheme (GSS) payments and the annual update to Bristol Water's Water Resources Management Plan (WRMP).

We have tailored our assurance with the aim of ensuring that customers and stakeholders can trust the data and information that Bristol Water provides. We consider the processes by which data are produced, the material accuracy of the data and any conclusions drawn by Bristol Water. We take an evidential approach to confirm the application of, rather than just the adequacy and appropriateness of procedures.

We note that under Ofwat's Company Monitoring Framework, Bristol Water must share full reports with Ofwat on request, if they have not been published in full. There is no duty of care to Ofwat from the assurer and Ofwat would not publish or share material provided that the Company had not published without agreement. The supporting documentation for this report (audit reports and issue log) is available if required.

1.2. Scope

The scope of this audit included the following elements:

- Data and commentary (if applicable) reported as part of the Annual Performance Report (APR) to Ofwat:
 - Table 3A - Outcome performance table, including underperformance penalties and outperformance payments
 - Table 3B - Sub-measure performance table
 - Table 3D - SIM (Service Incentive Mechanism)
 - Tables 4A, 4B, 4C, 4D, 4F and 4G
 - Table 3S – shadow reporting of new definition data
- WRMP Annual Review
- GSS payments
- Tables 4J, 4L, 4P, 4Q and 4V (formerly Wholesale Cost Tables)

The following tables show the scope of the audit in more detail.

Table 1-1 Scope of assurance – Performance Commitments

Performance Measure	Methodology and Data Audit
A1: Unplanned customer minutes lost	✓
A2: Asset reliability – infrastructure	✓
A3: Asset reliability - non-infrastructure	✓
B1: Population in centres >25,000 at risk from asset failure	✓*
C1: Security of supply index (SOSI)	✓
C2: Hosepipe ban frequency	✓
D1: Mean zonal compliance (MZC)	✓
E1: Negative water quality contacts	✓**
F1: Leakage	✓
G1: Meter penetration	✓
G2: Per capita consumption (PCC)	✓
H1: Total carbon emissions	✓
H2: Raw water quality of sources	✓
H3: Biodiversity index	✓
H4: Waste disposal compliance	✓
I1: Percentage of customers in water poverty	✓
J1: Service incentive mechanism (SIM): (BW)	✓
J1: Service incentive mechanism (SIM): (Pelican)	X***
J2: General satisfaction from surveys	✓
J3: Value for money	✓
K1: Ease of contact from surveys	✓
L1: Negative billing contacts (Pelican)	X***

* Methodology audit only as scheme now delivered

** Completed January 2019

*** We alternate with Wessex Water's assurance provider, who will be undertaking assurance for Pelican in 2018/19.

Table 1-2 Scope of assurance - APR Section 3 Tables

Table	Methodology and Data Audit
3A - Outcome performance table (including underperformance penalties and outperformance payments)	✓
3B - Sub-measure performance table	✓
3D - SIM (Service Incentive Mechanism)	✓
3S - Shadow reporting of new definitions (leakage, supply interruptions, unplanned outage, PCC, mains bursts, customer vulnerability and risk of severe restrictions in a drought)	✓

Table 1-3 Scope of assurance - APR Section 4 Tables (financial and non-financial information)

Performance Measure	Methodology and Data Audit
4A - Non-financial information	✓
4B - Totex analysis	✓
4C - Impact of AMP performance to date on RCV	✓
4D - Wholesale totex analysis – wholesale water	✓
4F - Operating cost analysis - household retail	✓
4G - Wholesale current cost financial performance	✓

Table 1-4 Scope of assurance – APR Section 4 Tables (4J to 4V - previously Wholesale Cost Tables)

Table	Lines	Line numbers	Methodology and Data Audit
4J - Atypical expenditure by business unit	Operating Expenditure	1 to 11	✓
	Capital Expenditure	12 to 21	✓
	Cash Expenditure	22 to 24	✓
	Atypical Expenditure	25 to 30	✓
	Total Expenditure	31	✓
4L - Enhancement capital expenditure by purpose	Enhancement expenditure by purpose	1 to 33	✓
4P - Non-financial data for WR, WT and WD: Resources	Proportion of distribution input by source type	1 to 8	✓
	Number and capacity of sources	9 to 23	✓
	Length of raw mains	24, 27	✓
	Pumping head	25 to 26	✓

Table	Lines	Line numbers	Methodology and Data Audit
	Water resources capacity	28	✓
4P - Non-financial data for WR, WT and WD: Treatment	Total water treated	29 to 43	✓
	Number of treatment works	44 to 58	✓
	Zonal population receiving water treated with orthophosphate	59	✓
	Average pumping head - treatment / Average pumping head - resources	60	✓
4P - Non-financial data for WR, WT and WD: Distribution	Main lengths	61 to 68	✓
	Capacity	69 to 71	✓
	Distribution input	72	✓
	Water Delivered	73 to 76	✓
	Leakage	77 to 79	✓
	Comms pipes	80 to 82	✓
	Network	83 to 85	✓
	Age of Network	86 to 93	✓
	Average pumping head – distribution	94	✓
	WTW in size bands	95 to 102	✓
	Proportion of Total DI band	103 to 110	✓
4Q - Non-financial data - Properties, population and other	Properties billed	1 to 5	✓
	Properties connected	6 to 8, 13 to 14	✓
	Meters	9 to 12, 16 to 17	✓
	Total Population Served	15	✓
	Company area	18	✓
	Lead Communication pipes	19	✓
	Supply / Demand	20 to 23	✓
	Energy Consumption	24 to 26	✓
	Mean zonal compliance	27	✓
	Compliance Risk Index	28	✓
	Events Risk Index	29	✓
	Volume of leakage	30	✓
4V - Operating cost analysis	Opex	1 to 22	✓

Table 1-5 Scope of assurance - GSS payments

Performance Measure	Methodology and Data Audit
Guaranteed Standards Scheme (GSS) payments (Bristol Water and Pelican)	✓

Table 1-6 Scope of assurance – WRMP Annual Review

Performance report	Methodology and Data Audit
WRMP Annual Review	✓

1.3. Structure of Assurance Report

This report is structured as follows:

- Assurance Statement
- Executive Summary
- Section 1 – Introduction
- Section 2 – Approach
- Section 3 – Summary of Findings

2. Approach

Our overall approach to assurance is based around a two-stage audit - methodology and data. For all audits this year we carried out a combined methodology and data audit.

The purpose of each audit stage is as follows:

Methodology Audits: To assess whether the Company’s methodology aligns with appropriate guidance, reporting requirements, licence conditions or industry practice and whether appropriate checks, controls and explanatory documents exist.

Data Audits: To assess whether methodologies/procedures are applied as indicated including data trailing to source documents to ensure alignment/consistency with the reported number, checks and controls and appropriateness of confidence grades assigned to reported information (where applicable).

This approach is consistent with Bristol Water’s assurance plan, which identifies external methodology audit and external data audit as potential ‘assurance responses’, described as follows:

External Methodology Audit: Not responsible for ensuring that returns are complete and accurate but to provide an independent challenge to the methodology to produce the submission. Review of the adequacy and effectiveness of the internal control systems to ensure returns are timely, complete and accurate. Formal report produced. Control gaps/areas for improvement identified and issues logged.

External Data Audit: Responsible for providing evidence of verification of Data; Intends to determine the level of confidence that can be placed on the figures; Formal report produced.

The process flow followed for each audit is summarised as follows:

Figure 2-1 Audit meeting process



The deliverables for each stage of the process are summarised below in Table 2-1.

Table 2-1 Description of Deliverables

Deliverable	Description
Notification of Audit Form (NAF)	Issued in advance of audit. Details audit arrangements, scope and agenda
Email summary	Initial feedback including detail of any material issues.
Summary of Audit Form (SAF)	Issued following the audit. Details findings and any actions for inclusion in the issues log.
Issues Log	Spreadsheet to track and report on responses to issues identified at audit. Includes Reference; Date Raised; Raised by; Line; Observation; Recommendation; Priority; Agreed (Y/N); Company response; Owner; By when; Status

Our assessment of the Company’s reporting against each table/table section has been assigned an overall rating of Red, Amber or Green to reflect their priority. Separate ratings have been given to the methodology and to the data.

Table 2-2 sets out the definitions for the different categories.

Table 2-2 Descriptions for RAG categories

Category	Description
RED	High Priority: Failure to comply with reporting requirements, major failure of process or data errors that may lead to misreporting.
AMBER	Medium Priority: Shortfalls in methodology and/or methodology documentation. Methodology under development. Incomplete data set or minor errors identified that do not alter the performance reported relative to targets and threshold values.
GREEN	Low Priority: Minor revisions to methodology and/or methodology documentation needed. Issue(s) not judged to be material or no issues.
TBC	To be confirmed – missing data or information

Our focus on particular areas was risk-based as highlighted in Bristol Water’s own analysis and supplemented by our experience in identifying and quantifying the elements of the journey from raw to published data that introduce material errors.

3. Summary of Findings

3.1. Performance Commitments (APR Table 3A-D)

The table below summarises the assurance category assigned to each performance commitment reported in the Annual Performance Report (APR Table 3A and 3B) with further detail below. The findings for Table 3S are provided in a separate report. The assessment of commentaries is based on those provided in the sign-off forms at audit.

Table 3-1 Performance Commitments (APR Table 3A-D) – Overall Assessment

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
A1: Unplanned customer minutes lost	14.7	12.5	Green	Green	Green	Green	Robustly reported
A2: Asset reliability – infrastructure	Marginal	Stable	Green	Green	Green	Green	Robustly reported
Sub-indicator: Bursts	1,074	950	Green	Green	Green	Green	Robustly reported
Sub-indicator: DG2 Low pressure	61	69	Green	Green	Green	Green	Robustly reported
A3: Asset reliability - non-infrastructure	Stable	Stable	Green	Green	Green	Green	Robustly reported
Sub-indicator: Unplanned maintenance	0	0	Green	Green	Green	Green	Robustly reported
Sub-indicator: Turbidity at treatment works	2,913	3,976	Green	Green	Green	Green	Robustly reported
B1: Population in centres >25,000 at risk from asset failure	9,063	9,063	Green	Green	Green	Green	Good evidence of SRS scheme completion confirmed the target met.
C1: Security of supply index (SOSI)	100	100	Green	Green	Green	Green	Methodology is fit for purpose. The figure has been robustly reported.
C2: Hosepipe ban frequency	3.1	10.2	Green	Green	Green	Green	No concerns over reported figure.

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
D1: Mean zonal compliance (MZC)	99.99%	100%	Green	Green	Green	Green	Robustly reported
E1: Negative water quality contacts*	1,934	2,275	Green	Green	Green	Green	Methodology is fit for purpose. Some minor errors were identified in reporting which were subsequently corrected.
F1: Leakage	45.8	44.0	Green	Green	Green	Green	Some improvements recommended, but not material. The Non-household night use uncertainty issue would be Amber, but this is being transparently reported to Ofwat. No significant concerns.
G1: Meter penetration	56.0%	62.5%	Green	Green	Green	Green	No issues with methodology or reporting. While increase in metering has been impressive (3.3% in year), the Company is still a long way from meeting targets set for AMP6, which the Company's forecasts recognise.
G2: Per capita consumption (PCC)	148.3	142.8	Green	Green	Green	Green	Figures as submitted can be assured, but the significant error initially encountered at audit highlights that there should be greater checking when systems are changed in future.

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
H1: Total carbon emissions	23	22 kgCO ₂ e/person	Green	Green	Green	Green	Robustly reported
H2: Raw water quality of sources	-14% (Improving)	+/- <= 10% (Marginal)	Green	Green	Green	Green	Robustly reported
H3: Biodiversity index	17,668 (Improving)	17,652 (Improving)	Green	Green	Green	Green	No concerns over reported figure.
H4: Waste disposal compliance	97.93%	100%	Green	Green	Green	Green	Robustly reported
I1: Percentage of customers in water poverty	0.0%	1.9%	Green	Green	Green	Green	Data provided by an external company and then % calculated by Company. No issues identified with transcription or calculation. Our scope does not include assurance of all data inputs feeding into the calculation.
J1: Service incentive mechanism (SIM): (BW)	84.7	5 th ranked company for 2017/18 (estimated 87.0)	Green	Green	Green	Green	The SIM score was adjusted slightly following clarification on the method of calculation. No issues were identified in relation to written complaint reporting. We have highlighted issues with the robustness of unwanted calls reporting previously and we would anticipate the accuracy of the reporting in this area will continue to improve.
J2: General satisfaction from surveys	89%	93%	Green	Green	Green	Green	We were satisfied that the data provided by a

Measure	Reported performance (18/19)	Target performance (18/19)	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
J3: Value for money	68%	72%	Green	Green	Green	Green	third-party provider has been transcribed accurately.
K1: Ease of contact from surveys	91.4%	96.5%	Green	Green	Green	Green	
L1: Negative billing contacts	1,595	2,240	Green	Green	Green	Green	We were satisfied that the data provided by Pelican was used accurately.

* Audit undertaken in January 2019

3.1.1. A1: Unplanned customer minutes lost

Performance has been robustly reported, with in-built checks that are an example of good practice. The Company is forecasting to meet its performance commitment for the final year of AMP6. The methodology document is fit for purpose. Though it has made a significant improvement from last year, the Company has exceeded its penalty collar. The year-end figure was 14.67 minutes, reported as 14.7 minutes against a year end performance commitment (post CMA) of 12.5 minutes and a penalty collar of 14.5 minutes. Based upon discussions and the commentary we saw, the prime reason for exceeding the target was the “exceptional Frenchay incident” which led to water quality issues. We challenged whether the Frenchay incident was indeed exceptional and noted that the root cause of the delays was faulty control valves in the rezoning carried out in response to a burst.

3.1.2. A2: Asset reliability – infrastructure and sub indicators

Overall Assessment of Asset Reliability (infra)

The outturn for the bursts sub-measure at APR 2017/18 was above the high reference level, which has impacted the 2018/19 assessment. Despite the bursts sub-measure improving to below the high reference level in 2018/19, the overall assessment under the terms of the FD2014 is that the Asset Reliability (infra) is Marginal. The method of reporting is well understood and clearly documented.

Sub-indicator: Bursts

The Company’s reporting methodology is fit for purpose. The reported figure was stated as 1,074 against a reference level of 950 and a high reference level of 1,166. We viewed a spreadsheet listing each of the bursts and the associated dates and job numbers. The source of the data in the spreadsheet was the GIS system. The reporting codes for the Business Objects report used to produce the data are unchanged and appropriate reporting fields were used. The reported number of bursts is below, but near the high reference level and the reasons for this were explained by the Company as the residual effects of the “beast from the east” and ground movement resulting from the long hot, dry summer period in 2018. There is no indication of an underlying increasing trend, as reporting year performance can readily be explained by the weather conditions experienced.

Sub-indicator: DG2

We believe that the Company’s reporting methodology for the reporting of DG2 is consistent with how it was done previously and how the target was set at PR14. The reported figure for DG2 was 61 against a committed performance level of 69. The reduction from the reported figure of 65 properties reported last year is due to the net effect of identifying and removing from the low pressure register 8 properties by the upsizing of a 1 inch diameter main, adding 3 properties identified during the hot summer weather, a project to remove 3 properties from the register and a further project to remove 4 properties on a shared supply. The target for the remainder of AMP6 should be achievable.

3.1.3. A3: Asset reliability - non-infrastructure and sub indicators

The methodology is well described and there is a robust check and review process in place for the unplanned maintenance inputs. The Company is performing well against the overall measure and the sub-indicators and is not forecasting any change from its current position.

3.1.4. B1: Population in centres >25,000 at risk from asset failure

The evidence previously provided confirmed that the Southern Resilience Scheme was operational before 31st March 2018. The methodology for reporting against performance commitment B1: Population Centres >25,000 at risk from asset failure stipulates that the step change in target level at 2017/18 is a function of the population served, at the time of PR14, that would go without water in the event of the Gloucester Sharpness Canal sources (Littleton TW and Purton TW) being lost. The fulfilment of the commitment is confirmed.

3.1.5. C1: Security of supply index (SOSI)

There have been no significant changes to the Company's methodology since our last review in October 2018. We were satisfied that the methodology document is fit for purpose.

We were able to follow the audit trails for all components of the SOSI calculator. Two minor errors were identified and corrected during the audit although these did not change the reported figure of 100.

The Company has met its in-year target and is on track to meet the target for the final year of AMP6.

3.1.6. C2: Hosepipe ban frequency

There have been no significant changes to the Company's methodology since our last review in October 2018. One minor clarification was agreed to the wording covering the Company's future plans for updating the hosepipe ban calculator.

Following the correction of two minor errors during the audit and the inclusion of the final PCC and DI figures, the hosepipe ban calculator was re-run and the updated figure was 3.09, in line with last year. We were able to follow the audit trails for all components, although we did not review the source documents for PCC and DI as these values were still being finalised at the time of audit.

The calculated outturn raw water losses and operational use figure continues to be high (24.63 MI/d for the reporting year), and some investment is required to improve confidence in this figure and reduce it if appropriate.

The Company continues to comfortably meet its in-year target and is on track to meet the target for the final year of AMP6.

3.1.7. D1: Mean zonal compliance (MZC)

Methodology and data gathering process is well established. The Company is reporting a compliance figure of 99.99% against a PC target of 100%. This is a significant improvement when compared to previous years.

3.1.8. E1: Negative water quality contacts

The Company is reporting a total of 1,934 negative water quality contacts. A small error was identified during the audit process which led to non-material changes to both the ODI reported contacts and also the water quality contacts reported to DWI (there are more types of customer contact included in the latter dataset).

The Company has significantly outperformed its 2018/19 target of no more than 2,275 customer contacts; however, it is not below the reward deadband of 1,439 contacts so there is no reward associated with the ODI this year.

3.1.9. F1: Leakage

We reviewed both ODI and 'actual' leakage. Although we identified three areas for continuing improvement on the leakage calculation, none of these were significant to the final figure. The ongoing issue with non-household night use reporting has been highlighted as an 'amber' risk in previous years, but is now well known to Ofwat and being appropriately reported to Ofwat. We have therefore assigned a 'green' assessment for the reported leakage figure. Final, post MLE reported figures were appropriately altered as a result of the PCC issue described below, and we were provided with the corrected water balance prior to reporting.

3.1.10. G1: Meter penetration

The Company's methodology is fit for purpose and the commentary is a fair reflection of current performance.

Source data is provided by Pelican and our checks and assurance relate to Bristol Water's use of this data. Based on our checks and sampling, we are satisfied with accuracy of the reporting.

The Company has not met its meter penetration target this AMP and while the in-year increase for 2018/19 has been impressive (3.3% from 52.7% to 56.0%), the pace of metering has slowed down compared with the mid-year position (half year: 1.8%) and the Company is still a long way from achieving the target. Bristol Water would need to deliver a step change in the rate of increase of 9.9% to achieve its end of AMP committed performance level of 65.9%. The Company has revised its forecast for 19/20 in its PR19 IAP response to 64% in recognition of this.

3.1.11. G2: Per capita consumption (PCC)

We reviewed both ODI and 'actual' PCC. The reporting methodology changed in the report year, and during our audit we identified significant issues with cross-compatibility between the old and new methods. This was reviewed and found to be caused by issues over property numbers, and differences in the management of leakage within the household consumption monitors. The Company was able to address these prior to submission, so we are confident that the final reported figures are consistent with the ODI reporting.

3.1.12. H1: Total carbon emissions

There have been no changes to the Company's methodology or documents since our last review. The Company is using the latest version of the Carbon Accounting Workbook, v13. We recommended several updates to the methodology document to add clarity.

The audit was conducted by reviewing the data underpinning the numbers being reported for the performance commitment and interrogating their source and derivation. Data checks were made and some issues were found, which have since been corrected.

Following challenges by the auditor in previous years, the Company has now performed an analysis of its carbon emissions total for each year of the AMP by stabilising the grid electricity emission factor. Given that grid electricity is by far the largest contributor to the Company's emissions total and its greenhouse gas emission factor (impact) varies each year, examining the Company's electricity consumption using a stable emission factor gives a true measure of the performance of the Company and is reflective of changes within its control. This information will help the Company understand its overall performance.

By using the 2015 grid emission factor, it can be seen that the Company's carbon emissions have increased over the AMP, as its electricity use has increased. This is the true indication of the Company's activities. The increase in electricity use and concomitant emissions is due to increased population and, significantly, due to weather conditions that have influenced customer demand, reduced reservoir replenishment and necessitated more pumping.

3.1.13. H2: Raw water quality of sources

The Company's methodology is well described, and data easily traced. No material issues were identified.

3.1.14. H3: Biodiversity index

There have been some changes to the Company's methodology since our last review. The most significant change has been the digitisation of data and information on biodiversity assets and opportunities, which is a positive development. The ability to use the full functionality of GIS will greatly enhance the ability of the Company to plan biodiversity improvements, and identify, record and track changes in an integrated and holistic way. The GIS system is not yet ready to be used to report the Biodiversity Index (BI); more development is needed after the input of data to enable the GIS system to calculate BI scores and run reports. Therefore, the Company has continued to use its Biodiversity Impact Assessment Tool or Calculator to record works, calculate changes to biodiversity, and underpin the reporting of this performance metric.

In addition, the Company is changing the way in which it reports its BI to include the net change from new sites, which we support.

In the audit, numerous files were examined to review the work at particular sites, and the evidence and calculations behind the scores. Following a change last year, the Company must report an improvement of at

least 1 BI point to show improvement. For the reporting year, the Company is reporting an improvement of 10.89 points, derived from the planting of trees, restoration of flow to a small watercourse, changes to grassland management and actions to increase habitat and plants for insects.

The Company is continuing with this performance commitment in AMP7, with a new annual target to achieve a net BI score of +11 points each year.

3.1.15. H4: Waste disposal compliance

We have no material issues with the methodology documentation and data provision. We have challenged the Company on the number of samples taken at some sites in the latter part of the reporting year and the Company has provided a reasonable explanation for this. We have also challenged the Company on the number of 'not measured' samples at Alderley; the Company has accepted that this is an issue which is primarily related to the remote location of the site. We understand the constraints and acknowledge that the Company is looking at mechanisms to improve the timely delivery of samples. While the current situation is not ideal, the Alderley site is generally a well performing one; as such this does not represent a material issue in respect of the PC.

The new permit at Blagdon Spillway is proving to be a challenge and accounts for 50% of the failures for this reporting year; the Company is in discussion with the EA over the future of this new permit. In the absence of the Blagdon Spillway failures the Company would be showing an overall improving trend despite not meeting its PC target. The low forecast for 2019-20 reflects the Blagdon Spillway issues and is pragmatic.

3.1.16. I1: Percentage of customers in water poverty

The Company is reporting a figure of 0.0% for 2018/19 as was the case in the previous reporting year. This is clearly below the target figure of 1.9%, which means that the committed performance level has been met.

The percentage of customers in water poverty is provided by an external company and then subject to a number of calculations with other datasets produced by Bristol Water. We followed the audit trail to confirm that the values were transcribed and calculated correctly, which was the case. It should be noted that while we assured some of the sub component values feeding into the calculation, we have not been asked to assure the Assist or Pension Credit values that feed into the ODI calculation but note that these are in line with the figures reported to CCWater.

3.1.17. J1: Service incentive mechanism (SIM)

The SIM score was adjusted slightly following clarification on the method of calculation of the qualitative survey component, from 84.5 to 84.7. The 'amber' we identified in 2017/18 for the SIM data has now been addressed. Only very minor issues were identified in relation to written complaint reporting. We have highlighted issues with the robustness of unwanted calls reporting previously and it is a positive development that quality assurance checks for telephone calls commenced in October 2018; however, there is still room for improvement and we would anticipate the accuracy of telephone reporting will continue to improve.

Some of the data which feeds into the SIM calculation is provided by Pelican. We alternate with Wessex Water's Reporter on assuring this data and for this year it was their turn so our checks are restricted to confirming that data provided by Pelican was used accurately, which was the case.

3.1.18. J2: General satisfaction from surveys

We trailed the 89% score back to the two original sources, an Excel spreadsheet and also a PowerPoint presentation from Future Focus Research. Our findings were satisfactory.

3.1.19. J3: Value for money

There were no issues identified, our audit trailing of the reported figure was satisfactory.

3.1.20. K1: Ease of contact

There were no issues identified; our audit trailing of the reported figure was satisfactory.

3.1.21. L1: Negative billing contacts

We alternate with Wessex Water's Report to carry out assurance activities at Pelican and this year it is their turn. Our checks were restricted therefore to checking calculations in the data and following the audit trail for a sample of the data to confirm that Bristol Water transposed the data correctly and calculated the total. Our findings were satisfactory.

3.2. Section 3 Tables

Table 3-2 below provides a summary of our assurance findings for Tables 3A, 3B and 3D.

Table 3-2 APR Section 3 Tables - Overall Assessment

Table	Methodology	Data	Commentary	Assurance summary
3A - Outcome performance table (including underperformance penalties and outperformance payments)	Green	Green	Green	No concerns over reported figures.
3B - Sub-measure performance table	<i>See A2 and A3 summaries above</i>			
3D - SIM (Service Incentive Mechanism)				See Performance Commitment J1 SIM summary in Table 3-1.
3S - Shadow reporting of new definitions (leakage, supply interruptions, unplanned outage, PCC, mains bursts and risk of severe restrictions in a drought, customer vulnerability)	Covered in a separate report			

3.2.1. 3A - Outcome performance table (including underperformance penalties and outperformance payments)

The Company's methodology is clear and robustly applied. We reviewed the Tables 3A and 3B and confirmed that the appropriate penalty collars, penalty deadbands and incentive rates had been applied in the calculation of the financial penalties where applicable. The figures in the table matched the audited figures and the interpretation of the application of the ODIs and calculations were correct.

3.2.2. 3B - Sub-measure performance table

Please refer to Performance Commitment A2 and A3 summaries above.

3.2.3. 3D - SIM (Service Incentive Mechanism)

Please refer to Performance Commitment J1 SIM summary.

3.3. Section 4 Tables – financial and non-financial information

The table below summarises the assurance category assigned to each table, with further detail below.

Table 3-3 APR Section 4 Tables (financial and non-financial information) – Overall Assessment

Table	Lines	Methodology	Data	Commentary	Assurance summary
4A - Non-financial information	1 to 5	N/A	Green	N/A	No concerns over reported figures.
4B - Totex analysis	1 to 9	Green	Green	Green	All issues satisfactorily resolved.
4C - Impact of AMP performance to date on RCV	1 to 6	Green	Green	Green	All issues satisfactorily resolved.
4D - Wholesale totex analysis – wholesale water	1 to 11	Green	Green	Green	Recommendation to obtain stronger clarification from Ofwat about line 6 in the coming year. We also recommend that the Company amends its methodology to allow any raw water storage opex to be identified and/or allocated appropriately.
	12 to 19	Green	Green	Green	All issues satisfactorily resolved.
	20 to 21	Green	Green	Green	All issues satisfactorily resolved.
	22 to 24	Green	Green	Green	No concerns. Lines 22 & 23 are zero entries this year.
	25 to 28	Green	Green	Green	All issues satisfactorily resolved.
4F - Operating cost analysis - household retail	1 to 14	Green	Green	Green	Recommendation to consider improving approach to analysis BWBSL costs next year.
4G - Wholesale current cost financial performance	1 to 12	Green	Green	Green	All issues satisfactorily resolved.

3.3.1. Table 4A - Non-financial information

We compared the reported figures to other figures reported elsewhere and did not identify any concerns.

3.3.2. Table 4B – Wholesale Totex analysis, Table 4C – Impact of AMP performance to date on RCV, Table 4F – Operating cost analysis - household retail, Table 4G – Wholesale current cost financial performance

In general, we found the Company's approach to the elements of Tables 4B, 4C, 4F and 4G reviewed here to be appropriate and in line with its Methodology Statement. Since last year, the Company has improved the reconciliation between tables. It has also improved the approach taken to line 3 of Table 4G, basing it on actuals and business plan projections.

As we did last year, we consider that the Company should consider using the disaggregated BWBSL data available to it to improve the robustness of the numbers reported in Table 4F. The Company has agreed to consider this for next year.

We found a number of minor errors which have subsequently been corrected.

3.3.3. Table 4D – Wholesale totex analysis – wholesale water

Lines 1-11 and 22-28 Operating expenditure

In general, we found the Company's approach to Tables 4D and 4J to be appropriate and in line with its Methodology Statement. As there are no atypical items, both tables contain the same information.

The Company has increased the confidence which can be placed in the analysis of its power costs by installing submetering at Purton.

However, we consider that the Company should obtain clarification from Ofwat about its interpretation that Line 6 ("Other operating expenditure - renewals expensed in year (Non-Infrastructure)") should be zero, as this is not clear from the guidance and, by this understanding, all companies would have to make a zero entry therefore serving no useful purpose.

We also consider that the Company should amend its analysis to allow any raw water storage opex to be captured, as at present there is no route to identify these costs.

We found a number of minor errors which have subsequently been corrected.

Lines 12-21 – Capital expenditure, grants and contributions

All challenged elements were explained and all samples trailed correctly.

3.3.4. Section 4 Tables 4J to 4V (previously Wholesale Cost Tables)

The table below summarises the assurance category assigned to each table, with further detail below. The assessment of commentaries is based on those provided in the sign-off forms at audit.

Table 3-4 APR Section 4 Tables (4J to 4V - previously Wholesale Cost Tables) – Overall Assessment

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
4J - Atypical expenditure by business unit	Operating Expenditure	1 to 11	Please refer to 4D				
	Capital Expenditure	12 to 21	Please refer to 4D				
	Cash Expenditure	22 to 24	Please refer to 4D				
	Atypical Expenditure	25 to 30	N/A	N/A	N/A	N/A	No atypical expenditure
	Total Expenditure	31	Please refer to 4D				
4L - Enhancement capital expenditure by purpose	Enhancement expenditure by purpose	1 to 33		Green	Green	Green	All issues satisfactorily resolved.
4P - Non-financial data for WR, WT and WD: Resources	Proportion of distribution input by source type	1 to 8	Green	Green	Green	Green	Minor error identified and corrected. No significant concerns over reported figures.
	Number and capacity of sources	9 to 23	Green	Green	Green	Green	No significant concerns over the reported figures. Company has clarified their interpretation of Ofwat's definition.

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
	Length of raw mains	24, 27	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Pumping head	25 to 26	Green	Green	Green	Green	The process of data management and extraction is well controlled and appropriate procedures are in place.
	Water resources capacity	28	Green	Green	Green	Green	A minor update was required to the methodology document and commentary, which is otherwise fit for purpose. No concerns over reported figure.
4P - Non-financial data for WR, WT and WD: Treatment	Total water treated	29 to 43	Green	Green	Green	Green	Robustly reported
	Number of treatment works	44 to 58	Green	Green	Green	Green	Robustly reported
	Zonal population receiving water treated with orthophosphate	59	Green	Green	Green	Green	Robustly reported
	Average pumping head - treatment / Average pumping head - resources	60	Green	Green	Green	Green	The process of data management and extraction is well controlled and appropriate procedures are in place.
4P - Non-financial data for WR, WT and WD: Distribution	Main lengths	61 to 68	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Capacity	69 to 71	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Distribution input	72	Amber	Green	Green	Green	We have concerns that the verification/validation process cannot be demonstrated to be working effectively. We have no concerns over the reporting of data once it is logged.
	Water Delivered	73 to 76	Green	Green	Green	Green	No significant concerns.

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
	Leakage	77 to 79	Green	Green	Green	Green	No significant concerns.
	Comms pipes	80 to 82	Green	Green	Green	Green	Information derived from the GIS. Several updates recommended for methodology.
	Network	83 to 85	Green	Green	Green	Green	Minor error identified and corrected for current and previous years.
	Age of Network	86 to 93	Green	Green	Green	Green	We had no significant concerns over the reported figures.
	Pumping head	94	Green	Green	Green	Green	The process of data management and extraction is well controlled and appropriate procedures are in place.
	WTW in size bands	95 to 102	Green	Green	Green	Green	Robustly reported
	Proportion of Total DI band	103 to 110	Green	Green	Green	Green	Robustly reported
4Q - Non-financial data - Properties, population and other	Properties, population and meters	1 to 14, 16 to 17	Green	Green	Green	Green	Residential properties billed for measured water adjusted following identification of issues with Pelican report although still some scope to improve approach. Challenged methodology and reporting for new connections although as it is likely to be a matter of accruals not quantity, the Company has decided not to adjust this year. Other reporting appears satisfactory.
	Total Population Served	15	Green	Green	Green	Green	Two small errors relating to the methodology for private water supplies were identified, the methodology will be updated and the number has been adjusted as a result of the change. Accuracy of private water supply data could be improved.

Table	Lines	Line numbers	Methodology		Data	Commentary	Assurance summary
			Method	Documentation			
	Company area	18	Green	Green	Green	Green	No issues with reporting. Methodology updated to explain how private supplies are treated.
	Lead Comms pipes	19	Green	Green	Green	Green	Reported figures are readily traced to quality work and checks are evident.
	Supply / Demand	20 to 23	Green	Green	Green	Green	No supply-side schemes implemented. Figures have been robustly reported. Minor updates to methodology and commentary undertaken.
	Energy Consumption	24 to 26	Green	Green	Green	Green	Figures appear to have been robustly reported and are now aligned with finance allocations. Minor edits to the methodology document and spreadsheets suggested and implemented.
	Mean zonal compliance	27	See D1 – Mean Zonal Compliance				
	Compliance Risk Index	28	Green	Green	Green	Green	Robustly reported
	Events Risk Index	29	Green	Green	Green	Green	Robustly reported
	Volume of leakage	30	Green	Green	Green	Green	No significant concerns.
4V - Operating cost analysis	Opex	1 to 22	Green	Green	Green	Green	All significant issues addressed. A number of minor areas for improvement identified for next year.

3.3.5. Table 4J - Atypical expenditure by business unit

The Company has not identified any atypical expenditure. Please refer to Table 4D above.

3.3.6. Table 4L – Enhancement expenditure by purpose

All challenged elements were explained and all samples trailed correctly.

3.3.7. Table 4P – Non-financial data for Water Resources, Water Treatment and Water Distribution

Line 1-8 Proportion of distribution input by source type

There have been no significant changes to the Company's methodology since our last review. The only change to the approach being used by the Company is that for this year import and export figures have been derived from Netbase and validated using manual reads, rather than using manual reads alone. The Company is moving towards using NetBase to extract abstraction data for all sites to replace the HydroLog system.

The auditee has been working on simplifying the data processing and main calculation spreadsheet, which was inherited from the previous data owner and is relatively complex. We queried a minor discrepancy between the totals for these lines and other associated lines, and a correction was made post-audit. Following this we have no significant concerns over the figures being reported. The Company confirmed that it is using water into supply figures rather than post-MLE DI as included in the water balance.

Line 9-23 Number and capacity of sources, Line 69-71 Capacity, Line 83-85 Network

There have been no significant changes to the methodologies since our previous review. All information for these lines is derived from SAP and extracted using Business Objects. There have been no changes to the reported figures as a result of asset changes since last year.

We queried whether two sources that had not been used in the past year should be included in the count for lines 9-16 as the Ofwat guidance states "*Standby or mothballed sources from which no water has been obtained in the year should not be included*". However, the Company does not consider them as 'mothballed' or 'standby' sources and has therefore included them in the reported figures. The Company has reported this assumption in the commentary for these lines.

We reviewed the spreadsheets used to process the data for the lines and could follow the audit trail. However, during the audit an error was identified in the number of booster pumping stations (line 83) for this year and previous years; this was reported as 113 but it should have been reported as 114. The auditees validated lines 83 and 69 and corrected the reported figures for line 83, including re-stating previous years' figures.

We suggested that the commentary should also comment on any changes to or key assumptions made within lines 9-16. The commentary was updated post-audit to reflect this.

Line 24, 27 Length of Raw Water Mains

For this reporting year Ofwat have introduced new line definitions - line 24 Length of raw water abstraction and Line 27 Length of raw and pre-treated water transport. A manual process has been conducted to separate raw water abstraction mains and length of raw and pre-treated water transport in the GIS system using a new attribute. The allocation was reviewed internally and extracted from GIS to derive the reported figures. There were no significant concerns over the reported figures.

Line 25-26, 60 and 94 Average Pumping Head

The process of data management and extraction is well controlled and appropriate procedures are in place. The inputs were reviewed from various reports with the Optima reporting making up the majority of the inputs. All checks were satisfactory. We suggested the Company update sources in the reporting spreadsheets in the comments box to reflect the more recent review of the data. A small difference in the DI balance was identified amounting to <1% of total, which was thought to be down to time differences or meter inaccuracy.

Line 28 Water resources capacity

This is a new line that has been added for this reporting year. The calculation for the reported figure is straightforward and represents the sum of forecast deployable output, climate change impacts and sustainability reductions from the WRMP tables. Aside from a minor clarification required to the wording around the use of WRMP14 versus WRMP19 data, we were satisfied that the methodology document is fit for purpose.

We reviewed the calculation spreadsheet and were able to trace the reported figures to the WRMP14 tables.

Line 29-43 Total water treated, Line 95-102 WTW in size bands and Line 103-110 Proportion of Total DI band

The methodologies are well described and the data easy to track. No material issues were identified.

Line 44-58 Total number of Treatment Works

Methodologies for all lines are well described. We have suggested a minor addition to the methodology for Lines 44-57 (addition of a site by site detailed process description as an appendix to aid future detailed reviews) and the inclusion of information in the commentary for these lines detailing those works not in service for the reported year (an Ofwat requirement). Otherwise no material issues identified.

Line 59 Zonal population receiving water treated with orthophosphate

No issues with methodology or data; based on the data reviewed we concur with the figure reported.

Line 61-68 Main lengths, Line 86-93 Age of Network

We are comfortable with the methodology for calculating the reported lengths of mains. With regards to data input validation, it is recommended that a reconciliation process between the company job management system and the GIS database is considered to clearly demonstrate consistency between the two activities.

Line 72 Distribution input

We can confirm that the process used to generate values for DI from the logged records is robust and did not encounter any issues during our audits. We also gained confidence from the fact that the equations used have been checked as part of the changeover to Netbase. However, we are concerned that the process that should be used to validate logged data is still not robust and may not be able to detect some of the problems that have been encountered by Bristol Water in previous years caused by intermittent logger faults. We recommend that the tracking and evidence base for investigations is improved for future years.

Line 73-79 Water Delivered and Total Leakage

The reporting of 'actual' leakage values used in this table relies on the same data and processes as the ODI reporting of leakage, but with the exception that non-household night use is based on the actual expected value, so it does not contain the same uncertainties as the ODI reporting.

Line 80-82 Communication pipes

The reporting of the communication pipes by material follows the same approach as previous years, but consideration of the proportion of unknown material types called into question the confidence grades being applied. Larger potential errors have been accommodated by assigning a confidence grade of A4 to each of the lines.

3.3.8. Table 4Q – Non-financial data – Properties, population and other

Line 1-14, 16-17 Properties and meters

Data for reporting is sourced from a mixture of internal and external sources for these reporting lines including Pelican, the Central Marketing Operating system (CMOS) and Bristol Water's Job Management System and Geographical Information System.

Issues were identified with the reliability of the reporting from Pelican Internal Domestic Meters bespoke report and also the Job Management System. For Residential properties billed for measured water, the reported numbers have been revised following clarification from Pelican, although there is still some scope to improve the approach for calculating the average in the future and be consistent with approach in other areas.

For the total number of new residential and business connections, it was identified that the current report counts jobs raised not connections made, so there is at the very least an issue of timeliness of reporting but also there is uncertainty if all jobs raised are then fulfilled. The Company's view is that as the number is not material, any correction of the methodology will be implemented next year.

Line 15 Total population served

There was no change to the Company methodology from the previous year. We followed the audit trails of the Company's spreadsheets for calculating the reported figure and identified what appear to be two systemic errors in the way that private water supplies were being treated in the calculations. They do not, however, materially affect reporting and were easily corrected. The Company's methodology has also been updated.

We recommended for the third year in a row further investigation into the private supplies figures derived from the public register of private water supplies as the data have not been updated since 2011. A Freedom of Information request was subsequently submitted to Mendip District Council to see if a more recent dataset can be obtained although nothing has been received in time to feed into this year's reporting. There is also the potential in future years to seek similar data on private water supplies from other councils in the Company area.

Line 18 Company area

The Company's methodology is unchanged and the figure being reported (2,367 km²) has been static for many years as there has been no physical change in the Company's supply area.

The methodology document has been updated to expose assumptions and explain why the approach is different from the calculation for deriving the total population, which is due to the way that private supplies are treated. The slight differences in approach are appropriate in our opinion as the characteristics of the data are different.

Line 19 Lead Communication pipes

The reported figure is well understood and defined. It is consistent with the methodology that has been applied throughout AMP6. We continue to note that the Company is understating its quality driven lead replacement activity by not including the opportunistic replacement of lead communication pipes during mains replacement activities.

Line 20-23 Supply/demand side enhancements

There have been no significant changes to the Company's methodologies since our last review.

Supply-side enhancements (lines 20-21)

No supply-side schemes have been implemented to date during AMP6 and the Company is therefore reporting lines 20 and 21 as zero. A reduction in the bulk export to Wessex Water has been provisionally agreed to start after 2025 (AMP8) and has been included in WRMP19.

Demand-side enhancements (lines 21-22)

The Company's reported leakage figure has reduced by 4.94 MI/d and the Company has installed 9,315 meters as part of their change in occupier meter installation scheme, equating to an assumed 0.45 MI/d demand-side enhancement. The total figure being reported by the Company this year is therefore 5.39 MI/d. We discussed whether negative values should be included in lines 22-23 if there has been an increase in leakage since the previous year. Ofwat recently responded to another company that queried this to state that negative values were acceptable, although this is unclear from the line RAG guidance.

The Company has decided to follow a consistent approach to last year, whereby an increase in leakage since the previous year would be reported as zero to reflect the fact that a leakage scheme has been implemented, but the savings derived have been negated by other factors increasing leakage. This also appears to be more consistent with the equivalent finance table lines (4L6-9), which would always report as a positive figure. We felt the approach was justifiable and suggested some additional explanation in the methodology document to explain the rationale for the approach. The Company has reduced leakage this year compared to 2017/18 so the reported figure is not sensitive to the approach used, but values for the previous two years would need to be re-stated should the Company incorporate negative values.

We were able to see the audit trail for the leakage figure and number of meters installed. We suggested some minor updates to the commentary, which were subsequently made.

Line 24-26 Energy consumption

There have been no significant changes to the Company's methodology since our last review. We recommended finalising the section showing which sites are included under each allocation, and the reasons for any changes, for clarity. This change was subsequently made.

The total energy consumption figure is calculated from the totals across electricity, transport, liquid fuels and gas. We reviewed the individual spreadsheets and the total allocation spreadsheet and the calculations appeared to be working as expected. The Company has significantly improved the electricity allocation spreadsheet since the previous reporting period, and it is now more robust and auditable.

We queried the derivation of the electricity allocation splits and suggested confirming that these allocations are still appropriate with the Finance department. As a result of this, post-audit there was a change to the allocation at the Company's largest works to align with the Finance department, resulting in a shift in current and previous years' figures.

We also noted that within the diesel calculations, for some of the entries for the previous reporting year the dates in the SAP download were absent and we recommended double checking that these had been included correctly in the calculations. Within this spreadsheet and the methodology document, we also recommended making it clearer that some of the diesel quantities have to be manually corrected based on the description from SAP.

The commentary provides a reasonable summary of the Company's performance with regards to energy consumption.

Line 27 Mean Zonal Compliance

Please refer to performance commitment D1: Mean Zonal Compliance.

Line 28 Compliance Risk Index, Line 29 Events Risk Index

The methodologies for both lines are aligned to the DWI requirements and are well described. The reported figures had all been signed off. With respect to the CRI an issue around the consistency of figures on total population served has been identified; the Company has explained that the discrepancy reflects the timing of population figures required by the DWI. We understand the issues and have accepted the explanation with a suggestion to carry out an internal check on CRI using the most up to date numbers (at the appropriate APR) to check materiality of the population difference. In respect of the ERI we have challenged the Company on the difference between the reported (and signed off) score and that evidenced in the data provided. The Company has responded that the difference reflects missing scores and that the number reported is an indicative overall score provided by the DWI but which will not be confirmed until July. At this stage we have no major concerns as the process itself appears robust.

Line 29 Volume of Leakage above or below the sustainable economic level

The SELL value has not changed for the report year, so our comments are covered under Table 4P lines 73-79 (see above).

3.3.9. Table 4V – Operating cost analysis

Table 4V has changed since last year with the cost lines in Block A now similar to Table 4D. The table also now includes an 'Other' water source column.

In general, we found the Company's approach to the table to be appropriate and in line with its Methodology Statement.

We challenged the approach taken this year to cost allocation for a number of the cost lines. The Company has responded by amending the approach for all material items and agreed to review the amending minor items for next year's submission.

The Company has improved its commentary by adding a document control section. The commentary provides a good explanation of the methodology. However, it would have been useful for the commentary to include explanation of the significant variation in depreciation charge since last year.

3.4. GSS Payments

The table below summarises the assurance categories assigned, with further detail in the assurance summary column.

Table 3-5 GSS payments – Overall Assessment

Performance Measure	Overall rating - Methodology		Data	Commentary	Assurance summary
	Method	Documentation			
Guaranteed Standards Scheme (GSS) payments (Bristol Water)	Green	Green	Green	N/A	We are satisfied that the Company records and makes payments where GSS failures are identified. There is room for improvement with the understanding and record keeping within the New Supplies team although we do not believe this materially impacts on compliance.

3.5. WRMP Annual Review

The table below summarises the assurance category assigned to each table, with further detail below.

Table 3-6 WRMP Annual Review – Overall Assessment

Performance report	Overall rating - Methodology		Data	Commentary	Assurance summary
	Method	Documentation			
WRMP Annual Review	Green	Green	Green	Green	Minor error corrected. No concerns over reported figures.

We undertook a remote review of the methodology document, report and data table for the WRMP Annual Review submission. We had no concerns over the methodology document. We suggested some minor editorial improvements to the report. We compared the 2018/19 reported figures to those reported elsewhere or included in the calculations for other reported figures and did not identify any issues. We queried two of the WRMP14 figures and one of these was subsequently corrected.

Appendices



Appendix A. Meeting Record

Table A-1 Performance Commitments Methodology and Data Audits Meeting Record

Performance Measure	Owner/Auditee	Auditor	Methodology and Data Audit Date
A1: Unplanned customer minutes lost	Glenn Hiscock	Jonathan Archer	09/05/2019
A2: Asset reliability - infrastructure	Glenn Hiscock (overall)	Jonathan Archer	15/05/2019
Asset reliability sub indicator: Bursts	Andrew Bardsley	Jonathan Archer	15/05/2019
Asset reliability sub indicator: DG2 Low Pressure	Mathias Pacalin	Jonathan Archer	15/05/2019
A3: Asset reliability - non-infrastructure	Matthew Davies, Natasha Bridge, Maciej Zgola	John Sutherland	Remote – May 2019
Asset reliability sub indicator: Turbidity Performance at WTW			09/05/2019
Asset reliability sub indicator: Unplanned maintenance events			09/05/2019
B1: Population in centres >25,000 at risk from asset failure	Kevin Henderson	Jonathan Archer	15/05/2019
C1: Security of supply index (SOSI)	Liz Cornwell	Monica Barker	08/05/2019
C2: Hosepipe ban frequency	Liz Cornwell	Monica Barker	08/05/2019
D1: Mean zonal compliance (MZC)	Natasha Bridge	John Sutherland	Remote – May 2019
E1: Negative water quality contacts	Jon Scott	Julian Jacobs	Jan 2019
F1: Leakage	Mathias Pacalin	Doug Hunt	07/05/2019
G1: Meter penetration	Glenn Hiscock	Julian Jacobs	21/05/2019
G2: Per capita consumption (PCC)	Mathias Pacalin	Doug Hunt	07/05/2019
H1: Total carbon emissions	Jamie Harris	Helen Gavin	14/05/2019
H2: Raw water quality of sources	Matt Pitts	John Sutherland	Remote – May 2019
H3: Biodiversity index	Patric Bulmer/ Natasha Clarke	Helen Gavin	14/05/2019
H4: Waste disposal compliance	Robert Luckwell	John Sutherland	Remote – May 2019
I1: Percentage of customers in water poverty	James Holman	Julian Jacobs	21/05/2019
J1: Service incentive mechanism (SIM)	Sue Clarke	Julian Jacobs	14/05/2019
J2: General satisfaction from surveys	Sue Clarke	Julian Jacobs	15/05/2019
J3: Value for money	Sue Clarke	Julian Jacobs	15/05/2019
K1: Ease of contact from surveys	Sue Clarke	Julian Jacobs	15/05/2019
L1: Negative billing contacts	Sue Clarke	Julian Jacobs	15/05/2019

Table A-2 GSS Payment Audit Meeting Record

Area	Owner/Auditee	Auditor	Audit Date
GSS Payments Bristol Water	Kerry Ross	Julian Jacobs	21/05/2019

Table A-3 APR Section 3 Tables Meeting Record

Table	Owner/Auditee	Auditor	Audit Date
3A - Outcome performance table (including underperformance penalties and outperformance payments)	Alex Smethurst	Jonathan Archer	23/05/2019
3B - Sub-measure performance table	<i>Covered under performance commitments A2 and A3 above</i>		
3D - SIM (Service Incentive Mechanism)	Sue Clarke	Julian Jacobs	14/05/2019
3S - Shadow reporting of leakage	Mathias Pacalin	Doug Hunt	07/05/2019
3S - Shadow reporting of PCC	Mathias Pacalin	Doug Hunt	07/05/2019
3S - Shadow reporting of supply interruptions	Glenn Hiscock	Jonathan Archer	09/05/2019
3S - Shadow reporting of unplanned outage	Liz Cornwell	Jo Parker	01/05/2019
3S - Shadow reporting of mains bursts	Kevin Henderson	Jonathan Archer	15/05/2019
3S - Shadow reporting of risk of severe restrictions in a drought	Liz Cornwell	Lauren Petch	Remote
3S – Shadow reporting of customer vulnerability	Danielle Emerson	Julian Jacobs	15/05/2019

Table A-4 APR Section 4 Tables (financial and non-financial information) Meeting Record

Table	Owner/Auditee	Auditor	Audit Date
4A - Non-financial information	<i>Covered under APR audits</i>		
4B - Totex analysis	Matt Woolley	Graydon Jeal	10/06/2019
4C - Impact of AMP performance to date on RCV	Beverley Lawton	Graydon Jeal	10/06/2019
4D - Wholesale totex analysis – wholesale water	Matt Woolley; Geraldine Redman	Graydon Jeal	11/06/2019
4F - Operating cost analysis - household retail	Matt Woolley	Graydon Jeal	10/06/2019
4G - Wholesale current cost financial performance	Jonathan Hucker	Graydon Jeal	10/06/2019

Table A-5 APR Section 4 Tables (4J to 4V - previously Wholesale Cost Tables) Meeting Record

Table	Lines	Line numbers	Owner/Auditee	Auditor	Audit Date
4J - Atypical expenditure by business unit	Operating Expenditure	1 to 11	Matt Woolley	Graydon Jeal	11/06/2019
	Capital Expenditure	12 to 21	Geraldine Redman	Jonathan Archer	11/06/2019
	Cash Expenditure	22 to 24	Matt Woolley	Graydon Jeal	11/06/2019

Table	Lines	Line numbers	Owner/Auditee	Auditor	Audit Date
	Atypical Expenditure	25 to 30			
	Total Expenditure	31	Matt Woolley	Graydon Jeal	11/06/2019
4L - Enhancement capital expenditure by purpose	Enhancement expenditure by purpose	1 to 33	Oliver Hodgson	Jonathan Archer	12/06/2019
4P - Non-financial data for WR, WT and WD: Resources	Proportion of distribution input by source type	1 to 8	Carl Gilbert	Monica Barker	16/05/2019
	Number and capacity of sources	9 to 23	Sarah McHugh	Monica Barker	16/05/2019
	Length of raw mains	24, 27	Henry Ditoos	Katherine Adams	15/05/2019
	Pumping head	25 to 26	Jamie Harris	Simon Ingall	30/04/2019
	Water resources capacity	28	Liz Cornwell	Monica Barker	08/05/2019
4P - Non-financial data for WR, WT and WD: Treatment	Total water treated	29 to 43	Carl Gilbert	John Sutherland	Remote – May 2019
	Number of treatment works	44 to 58	Sarah McHugh, Natasha Bridge (line 58)	John Sutherland	Remote – May 2019
	Zonal population receiving water treated with orthophosphate	59	Henry Ditoos	John Sutherland	Remote – May 2019
	Average pumping head - treatment / Average pumping head - resources	60	Jamie Harris	Simon Ingall	Inc in pumping head
4P - Non-financial data for WR, WT and WD: Distribution	Main lengths	61 to 68	Henry Ditoos	Katherine Adams	15/05/2019
	Capacity	69 to 71	Sarah McHugh	Monica Barker	16/05/2019
	Distribution input	72	Carl Gilbert	Doug Hunt	08/05/2019
	Water Delivered	73 to 76	Mathias Pacalin	Doug Hunt	08/05/2019
	Leakage	77 to 79	Mathias Pacalin	Doug Hunt	08/05/2019
	Comms pipes	80 to 82	Henry Ditoos	Jonathan Archer	16/05/2018
	Network	83 to 85	Sarah McHugh	Monica Barker	16/05/2019
	Age of Network	86 to 93	Henry Ditoos	Katherine Adams	15/05/2019
	Pumping head	94	Jamie Harris	Simon Ingall	Inc in Pumping Head
	WTW in size bands	95 to 102	Carl Gilbert	John Sutherland	15/05/2019
	Proportion of Total DI band	103 to 110	Carl Gilbert	John Sutherland	15/05/2019
4Q - Non-financial data - Properties, population and other	Properties billed	1 to 5	Glenn Hiscock	Julian Jacobs	08/05/2019
	Properties connected	6 to 8, 13 to 14	Glenn Hiscock, Lynn Hawkins (13 to 14)	Julian Jacobs	08/05/2019
	Meters	9 to 12, 16 to 17	Glenn Hiscock	Julian Jacobs	08/05/2019

Table	Lines	Line numbers	Owner/Auditee	Auditor	Audit Date
	Total Population Served	15	Mathias Pacalin	Julian Jacobs	08/05/2019
	Company area	18	Henry Ditoos	Julian Jacobs	21/05/2019
	Lead Communication pipes	19	Lynn Hawkins	Jonathan Archer	16/05/2018
	Supply / Demand	20 to 23	Liz Cornwell	Monica Barker	15/05/2019
	Energy Consumption	24 to 26	Jamie Harris	Monica Barker	15/05/2019
	Mean zonal compliance	27	Natasha Bridge	John Sutherland	Covered in D1
	Compliance Risk Index	28	Natasha Bridge	John Sutherland	Remote – May 2019
	Events Risk Index	29	Natasha Bridge	John Sutherland	Remote – May 2019
	Volume of leakage	29	Mathias Pacalin	Doug Hunt	Covered in F1
4V - Operating cost analysis	Opex	1 to 22	Matt Woolley / Geraldine Redman	Graydon Jeal	12/06/2019

Table A-6 WRMP Update Audit

Area	Owner/Auditee	Auditor	Date
WRMP Annual Return	Liz Cornwell	Monica Barker	Remote – June 2019

Monica Barker
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